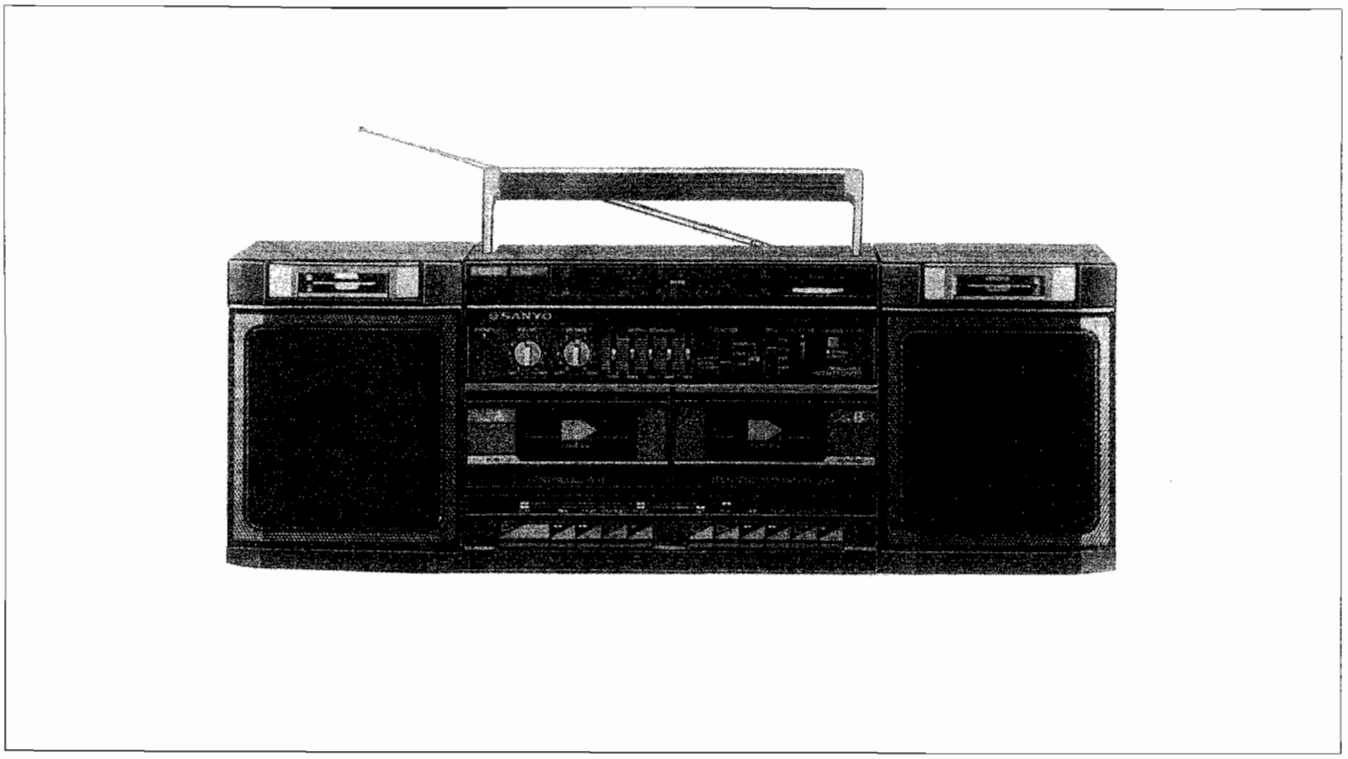
1540

SERVICE MANUAL

CASSETTE RECORDER

SANYO

M W225K



SPECIFICATIONS

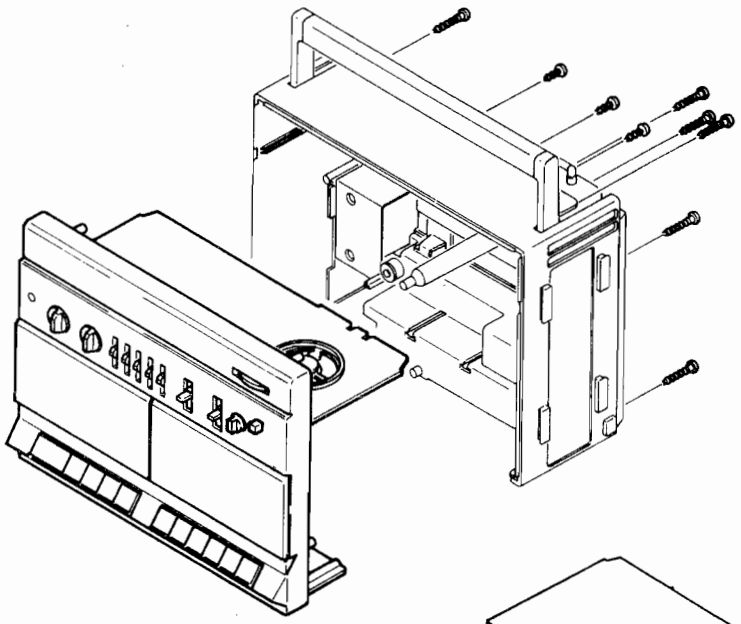
Recording system	AC bias, 4-track stereo
Erasing system	AC erase, 2-track
Tape speed	4.75 cm/sec. (1-7/8 i.p.s.)
Fast forward and Rewind time	2 min. (C-60)
Frequency range	MW: 530 – 1,605 kHz
	SW1: 2.3 – 7.0 MHz
	SW2: 7.0 – 22 MHz
	FM: 87.5 – 108 MHz
Terminal impedance	EXT SPEAKER: 3 – 8 ohms
	PHONES: 32 ohms
Frequency response	63 – 14,000 Hz
Output power	22 W (P.M.P.O.)
Power source	DC: 9V, "SUM-1" (D) x 6
	AC: 110 – 127/200 – 220/230 – 250 V, 50/60 Hz
Dimensions	618 (W) x 217 (H) x 160 (D) mm
Weight	Approx. 5.1 kg including batteries

Specifications subject to change without notice.

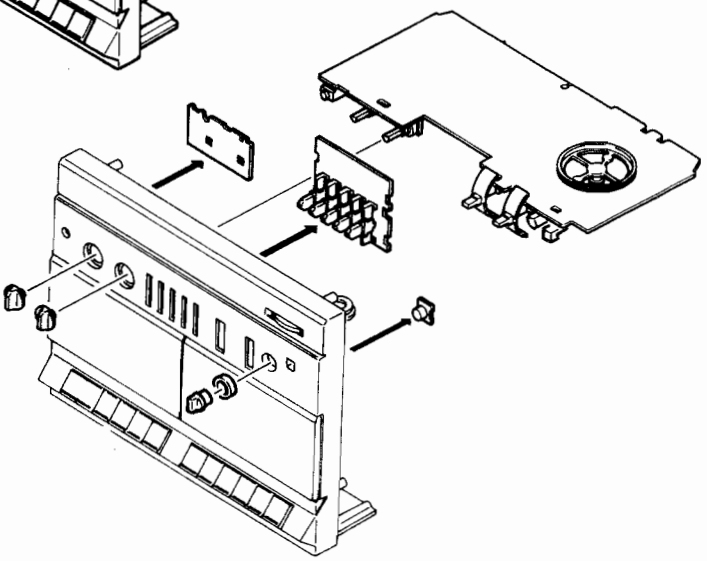
1540

DISASSEMBLY

REMOVAL OF BACK LID

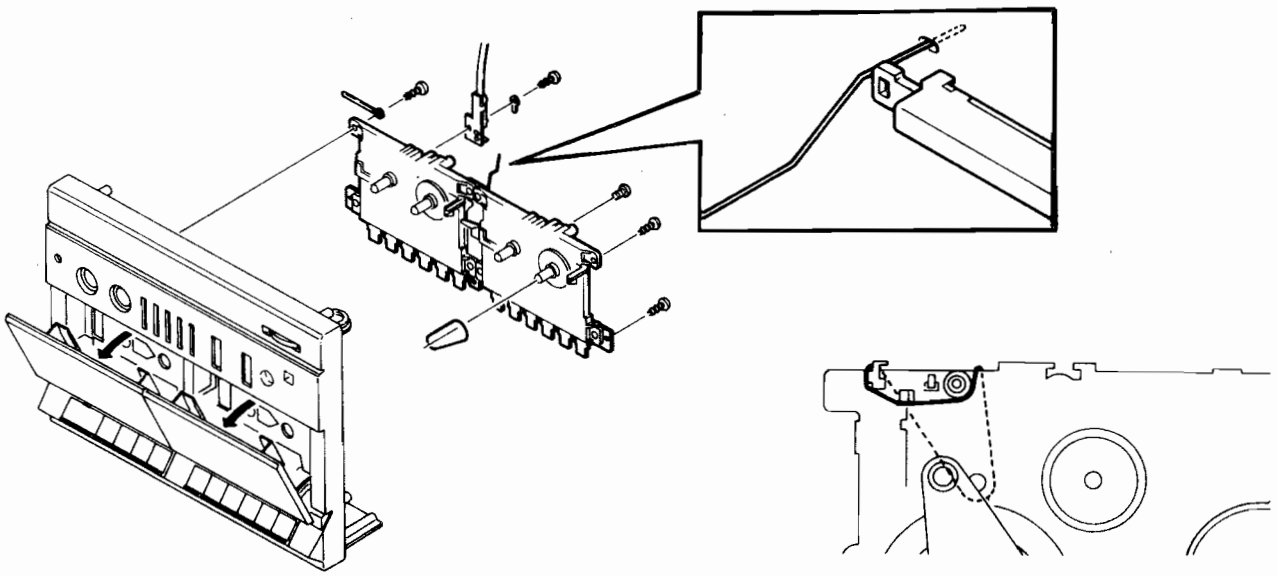


REMOVAL OF P. C. BOARD



REMOVAL OF MECHANISM

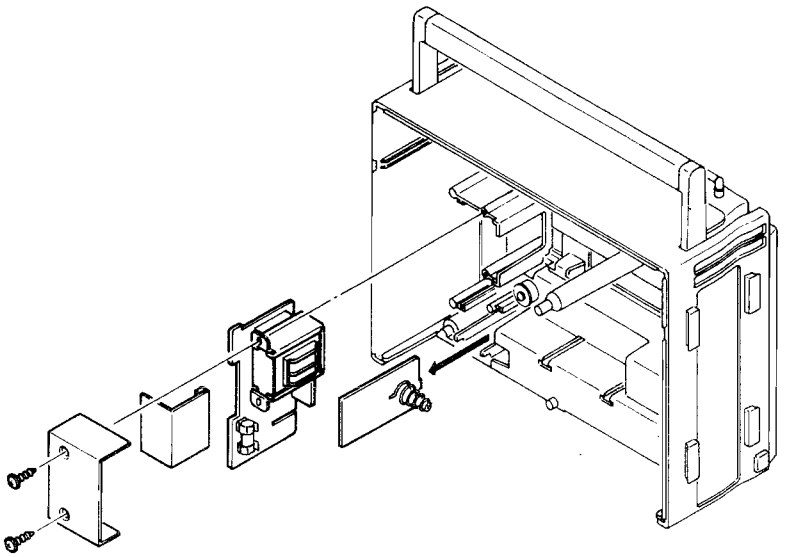
The R/P Switching wire spring, befit as shown figer.



Counter belt, should be hook to chassis rib befor installation mechanism.

DISASSEMBLY

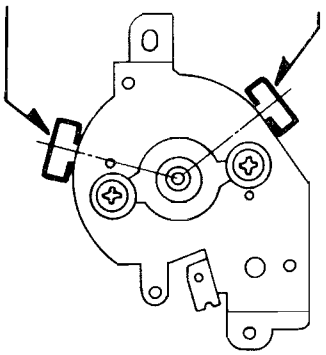
REMOVAL OF POWER SUPPLY & BATTERY TERMINAL P. C. BOARD



REPLACEMENT

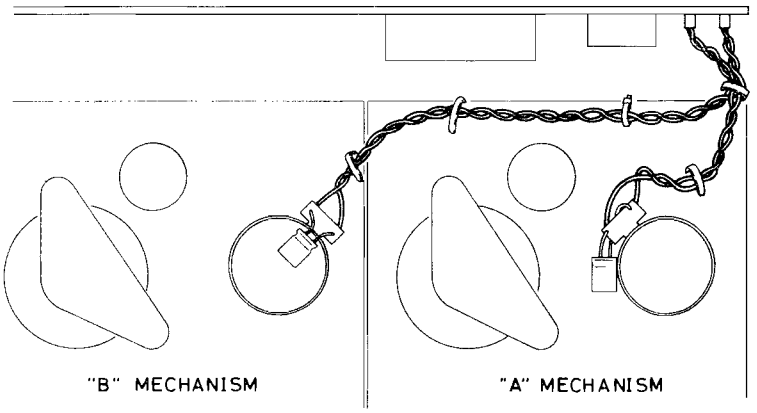
MOTOR P. C. BOARD

MECHAN " B " P. C. B MECHAN "A " P. C. B

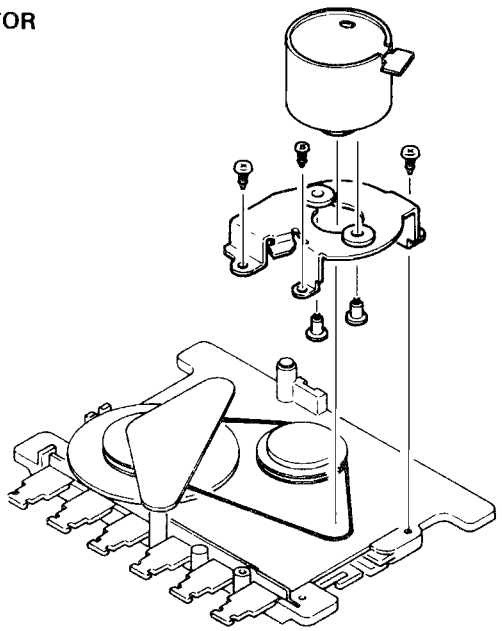


PULLEY SIDE VIEW

MOTOR WIRE



MOTOR



TAPE SPEED ADJUSTMENT

NOTE: 1. When making the speed adjustment, after first making the adjustment for tape deda A and tape deck B at the high speed, then make the adjustment for tape dexk A and tape deck B at the normal speed.
2. Apply +9V to the hole of the unit when high speed adjustment is made.

Motor speed adj.	Test tape used
Normal speed	MTT-111 etc. : 3,000Hz
High speed	TCW-211 etc. : 1,500Hz

* Set each volume and switch as shown below.
VOLUME : Center
TONE : Center
FUNCTION : TAPE
DUBBING SPEED : NORMAL

Adu. SVR	Adjustment
SVR652	Tape deck A normal speed
SVR654	Tape deck B normal speed
SVR651	Tape deck A high speed
SVR653	Tape deck B high speed

1. MOTOR SPEED ADJUSTMENT (high speed)

DUBBING SPEED : HIGH

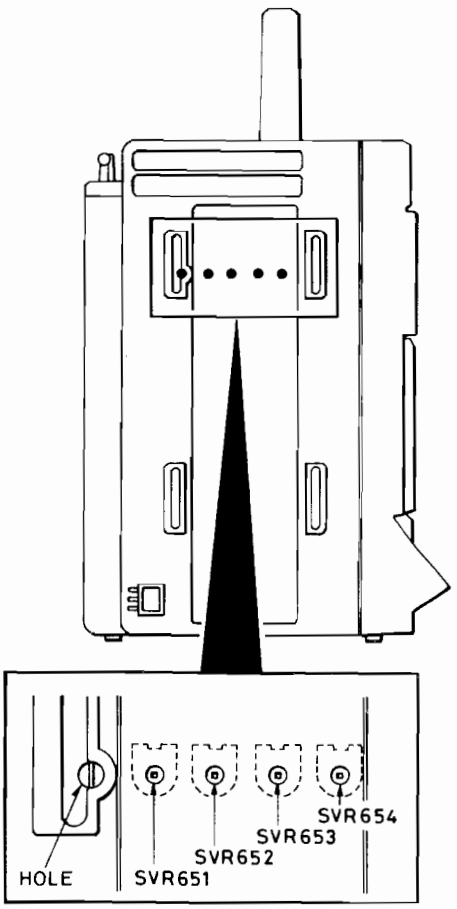
(1) Insert the test tape (TCW-211, etc. 1,500 Hz) into tape deck A.
(2) Press tape deck A's play button.
(3) Adjust SVR651 so that the frequency counter shows a reading of 3,000 Hz.
(4) Press tape deck A's stop button.
(5) Then insert the test tape into tape deck B.
(6) When adjusting tape deck B, Put tape deck A in the playback mode.
(7) Press tape deck B.s play button.
(8) Adjust SVR653 so that the frequency counter shows a reading of 3,000 Hz.
(9) Press tape deck A.s & B.s stop button.

2. MOTOR SPEED ADJUSTMENT (normal speed)

DUBBING SPEED : NORMAL

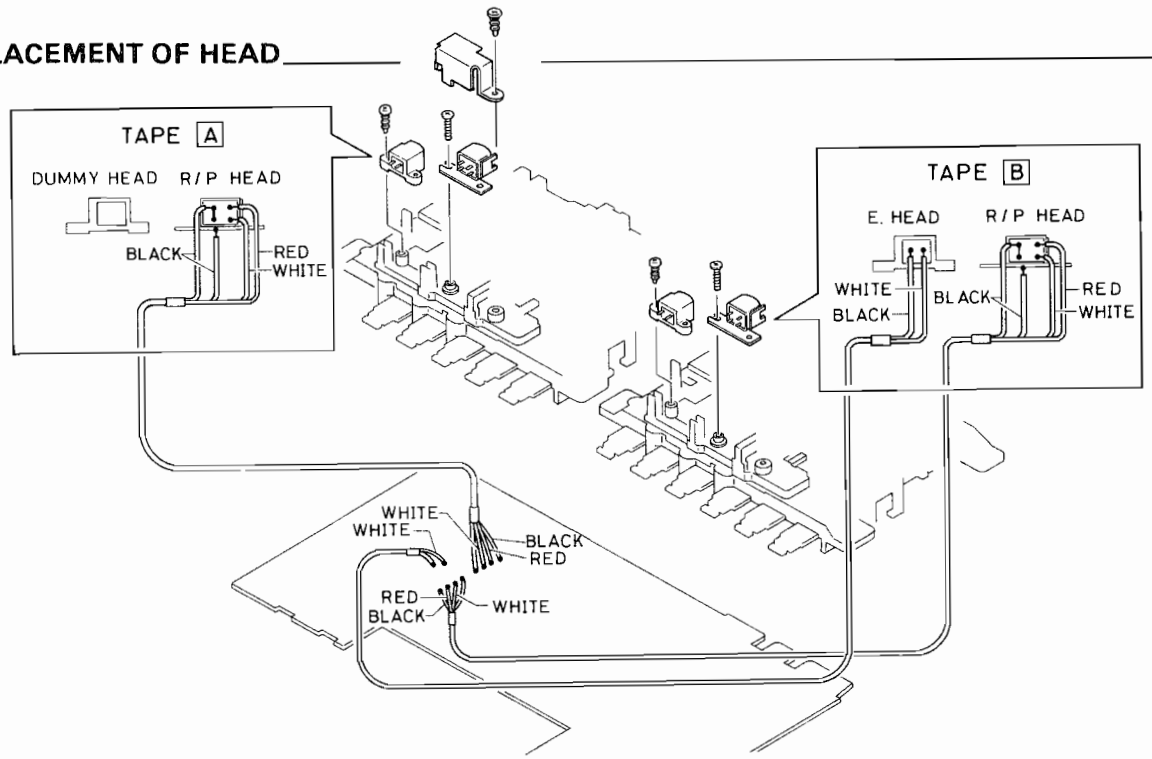
(1) Set the dubbing speed selector to the normal speed setting.
(2) Insert the test tape (MTT-111, etc. 3,000 Hz) into tape deck A.
(3) Press tape deck A's play button.
(4) Adjust SVR652 so that the frequency counter shows a reading of 3,000 Hz.
(5) After adjusting tape deck A, insert the test tape into tape deck B.
(6) Press tape deck B.s play button.
(7) Adjust SVR654 so that the frequency counter shows a reading of 3,000 Hz.

Set the left side view

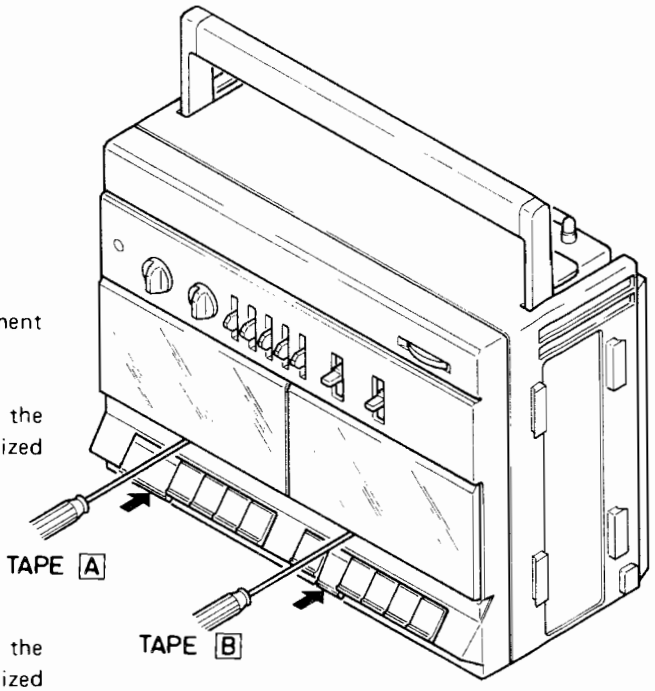


Motor speed adjusting hole

REPLACEMENT OF HEAD



* After replacing the head, demagnetize the head by using a head eraser.
* Be sure to clean the head assembly before making the adjustment.
* Set the all graphic equalizer knob as center position. (0)



TAPE DECK A AZIMUTH ADJUSTMENT

(1) Insert the test tape (VTT-658, etc.: 10 kHz) for azimuth adjustment into tape deck A.
(2) Press tape deck A's play button.
(3) Use a cross-tip screwdriver to turn the screw for adjustment of the tape deck A azimuth so that the left/right outputs are maximized while tape deck A is playing back.

TAPE DECK B AZIMUTH ADJUSTMENT

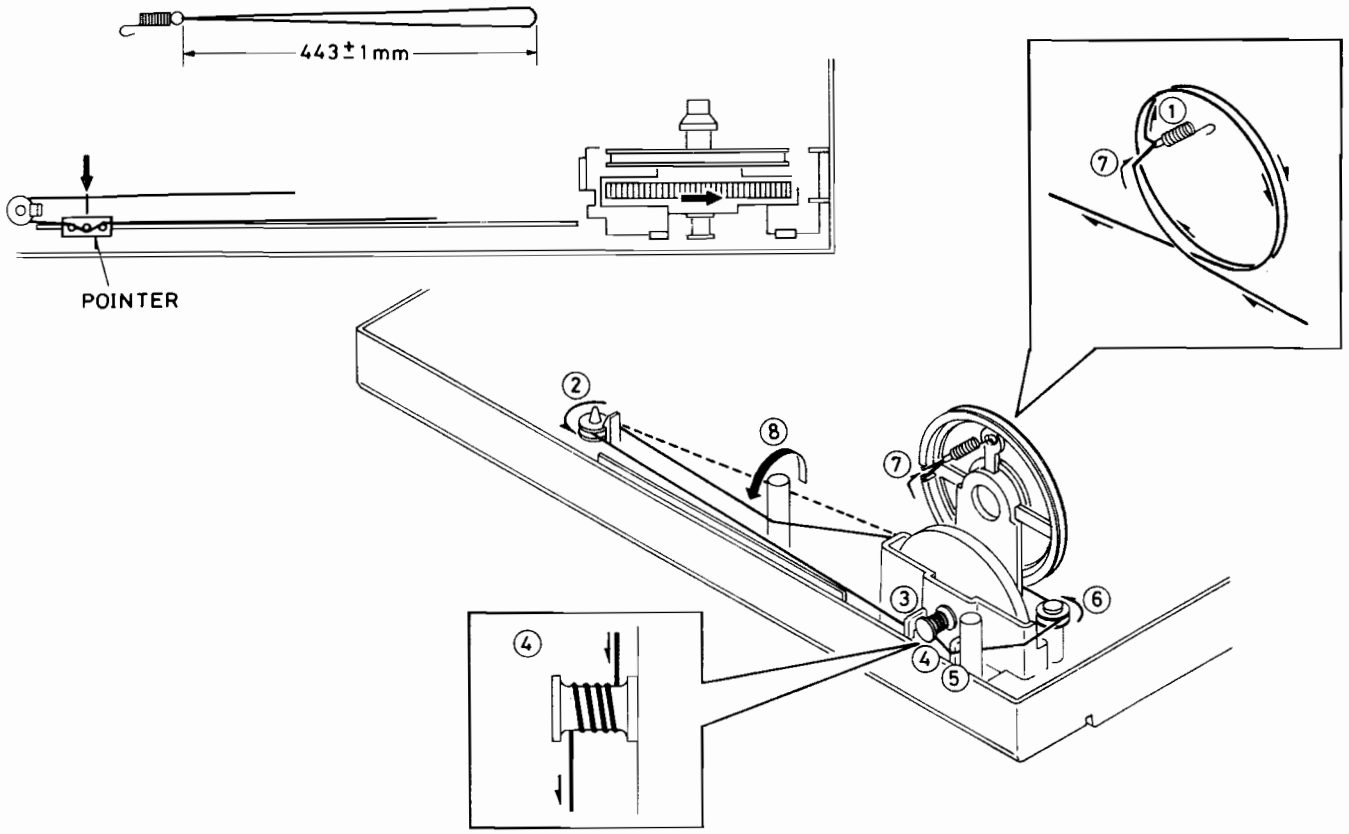
(1) Insert the test tape for azimuth adjustment into tape deck B.
(2) Press tape deck B's play button.
(3) Use a cross-tip screwdriver to turn the screw for adjustment of the tape deck B azimuth so that the left/right outputs are maximized while tape deck B is playing back.

ADJUSTMENT OF MECHANISM

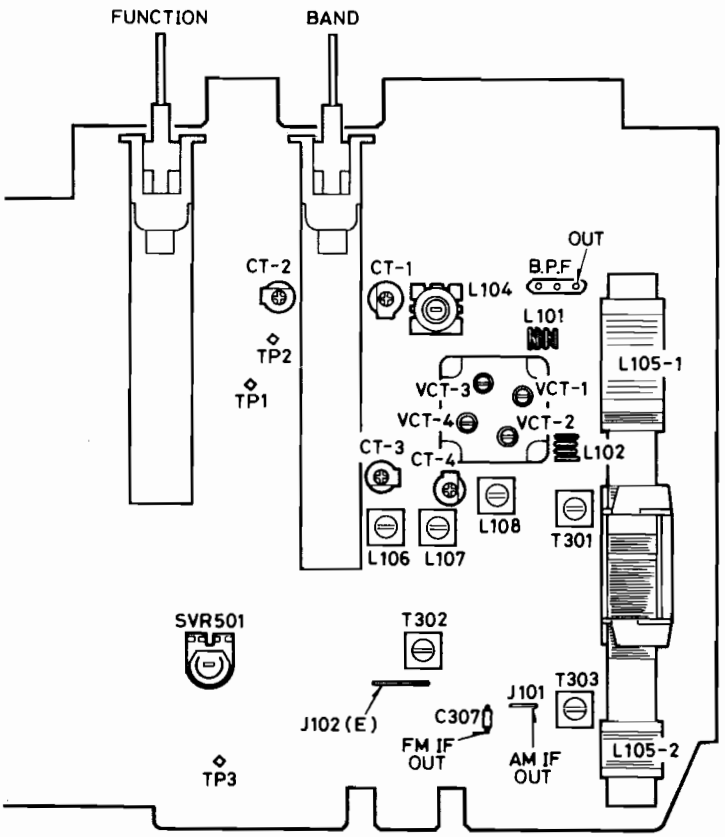
* Clean the head, capstan and pinch roller before measurement.
* Check the torque and tension.

Measuring item	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY: TW–2111 F.FWD/REW: TW–2231	PLAY: TW–2111	Drive power cassette TW–2413
PLAY	30 ~ 65 gr · cm	2 ~ 4 gr · cm	150 gr or more
F. FWD	60 ~ 150 gr · cm	—	—
REW	60 ~ 150 gr · cm	—	—

THREADING OF DIAL ROPE



PARTS LOCATION



ADJUSTMENT OF TUNER

* Use a plastic screwdriver for adjustment.
* Adjust the intermediate frequency of AM and FM to the frequency of ceramic filter.
* Set the all graphic equalizer knob as center position. (0)

Supply voltage : DC 9.0V Standard Output : 50mW (0.39V) Fine Tuning VR : Mechanical Center
Speaker impedance : 3 ohm Function selector : RADIO

MW **BAND SELECT SWITCH : MW**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Closed the output terminal by sweep generator, it place to L105-2	Connect sweep generator to AM jumper J101 (H), jumper J102 (E)	455kHz	Low	T303	MAX.
2	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	505kHz	Low End	L108	MAX.
3				1650kHz	High End	VCT-4	
4	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	600kHz	600kHz	L105-2	MAX.
5				1400kHz	1400kHz	VCT-3	
6	Repeat adjustments						

SW1 **BAND SELECT SWITCH : SW1**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	2.15MHz	Low End	L107	MAX.
2				7.3MHz	High End	CT-4	
3	Tracking	Connect AM SG to Test Loop	Connect VTVM to speaker terminals	2.5MHz	2.5MHz	L105-1	MAX.
4				6.5MHz	6.5MHz	CT-2	
5	Repeat adjustments						

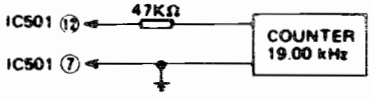
SW2 **BAND SELECT SWITCH : SW2**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	Tuning Coverage	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	6.8MHz	Low End	L106	MAX.
2				22.7MHz	High End	CT-3	
3	Tracking	Connect AM SG to ANT terminal through dummy	Connect VTVM to speaker terminals	8.0MHz	8.0MHz	L104	MAX.
4				21.0MHz	21.0MHz	CT-1	
5	Repeat adjustments						

FM **BAND SELECT SWITCH : FM** **FM DUMMY ANTENNA: 75Ω unbalance**

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	IF	Connect sweep generator of output line to IC101 pin 1 (H) and TP 2 (E).	Connect sweep generator of input line to C307 (H) and J102 (E).	10.7MHz	Low	T301	
2	Detector					T302	
3	Tuning Coverage	Connect FM SG to TP1 (H), TP 2 (E)	Connect VTVM to speaker terminals	87.0MHz	Low End	L102	MAX.
4				109.0MHz	High End	VCT-2	
5	Tracking	Connect FM SG to TP1 (H), TP 2 (E)	Connect VTVM to speaker terminals	90.0MHz	90.0MHz	L101	MAX.
6				106.0MHz	106.0MHz	VCT-1	
7	Repeat adjustments						

Adjustment of FM VCO
Radio band selector: FM STEREO



Turn SVR501 until the frequency counter reads 19.00 kHz ± 100 Hz

PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	141-6-133T-83607	INNER CORR CASE
	141-6-145T-16600	FOAM PLASTIC CASE
	141-6-235T-45401	INNER POLYE LAMINA COVER, 450X400MM, SET
	141-2-247T-63000	SHEET, 200X770MM
	141-6-409T-39300	INST MANUAL, ENGLISH, SPANISH, FRENCH
	141-6-409T-39302	INST MANUAL, CHINESE, KOREAN, ARABIC
	⚠ 4-235T-90100	SOCKET, AC POWER CORD MTG.
or	⚠ 4-236T-11201	PLUG ASSY, AC POWER CORD MTG.

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	141-0-111T-69811	CABINET ASSY
2	141-0-124T-51808	TOP LID ASSY, TAPE "A"
3	141-0-124T-51708	TOP LID ASSY, TAPE "B"
4	141-0-581T-32005	GEAR ASSY
7	141-2-385T-04001	BRACKET, MIC
9	141-2-447T-67800	CUSHION, 8X8X4, SHIELD PLATE, MIC
10	141-2-511T-31500	POINTER
11	141-2-165T-01201	ROTARY KNOB, VOLUME/BALANCE
12	141-2-164T-45731	SLIDE KNOB, GRAPHIC EQUALIZER
13	141-2-162T-25401	LEVER KNOB, FUNCTION/BAND
14	141-2-162T-25201	LEVER KNOB, REC
15	141-2-162T-25200	LEVER KNOB, PLAY
16	141-2-162T-25202	LEVER KNOB, REW
17	141-2-162T-25203	LEVER KNOB, F.FWD
18	141-2-162T-25204	LEVER KNOB, STOP/EJECT
19	141-2-162T-25205	LEVER KNOB, PAUSE
20	141-2-754T-88600	SHAFT, LEVER KNOB
21	141-2-860T-08700	SPRING WIRE, SHAFT
22	141-2-165T-04600	ROTARY KNOB, TUNING
23	141-2-210T-78100	BRACKET, ROTARY KNOB
24	141-2-566T-16800	TUNING SHAFT
25	141-2-457T-23000	SPECIAL WASHER, SHAFT
26	141-2-661T-19200	PULLEY
27	141-2-162T-25300	LEVER KNOB, PLAY, LARGE
28	141-2-538T-12700	DRUM, TUNING
29	141-2-340T-03001	ROPE, 0.3X1000MM
30	141-2-851T-06300	SPRING COIL, ROPE
31	141-2-365T-59101	BRACKET SWITCH
33	141-2-290T-19100	BRACKET, MECHANISM A
34	141-2-290T-19000	BRACKET, MECHANISM B
35	141-2-290T-19200	BRACKET, MECHANISM A/B
36	141-2-447T-46200	CUSHION, 15X25X3, SPKR BOX
39	141-2-447T-00800	CUSHION, 5X15
43	141-2-472T-01001	LUG
45	141-2-860T-10500	SPRING WIRE, REC
50	141-0-126T-57112	BACK LID ASSY
53	123-2-453R-10500	PLASTIC WASHER, POWER CORD
55	141-2-322T-89602	SHIELD PLATE, P.T.
56	141-2-322T-89603	SHIELD PLATE, P.T.
57	141-2-447T-55201	CUSHION, 15X32X1.5
59	141-2-246T-38500	SHEET, P.T.
62	141-0-171T-18409	HANDLE ASSY
63	141-2-271T-21700	BRACKET, HANDLE
64	141-2-128T-25400	BATTERY LID
65	141-0-122T-63600	FRONT PANEL ASSY, SPKR BOX
68	141-0-126T-57900	BACK LID ASSY, SPKR, RIGHT
69	141-0-126T-58000	BACK LID ASSY, SPKR, LEFT
70	141-2-163T-89642	ROTARY KNOB, FINE TUNING
71	141-2-160T-45740	PUSH BUTTON, FM MODE
72	141-2-210T-84100	BRACKET

FIXING PARTS

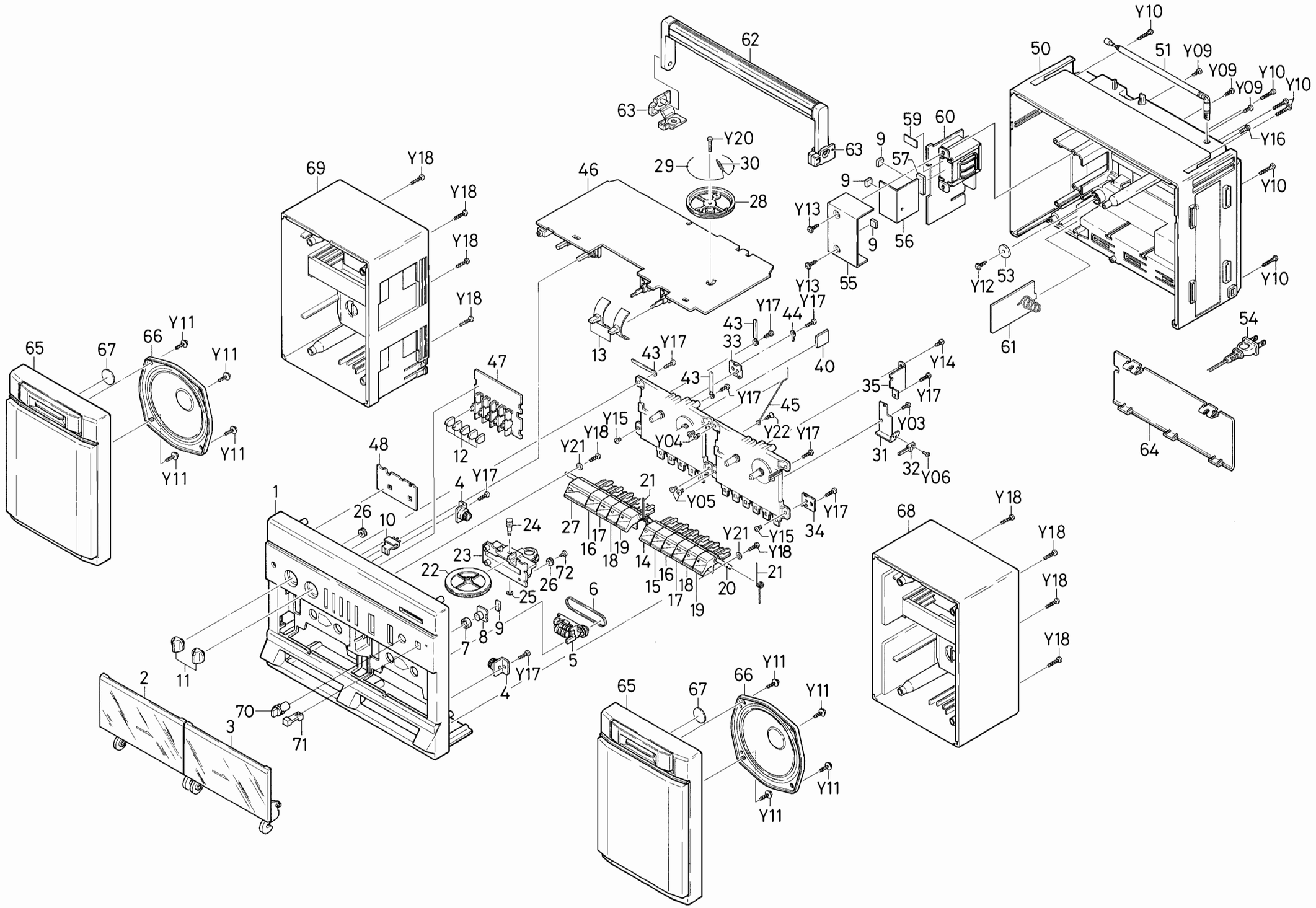
Ref. No.	Part No.	Description
Y03	BJSTS++3+4+Z1	PAN HD 2 SPECIAL FORMING SCREW 3X4
Y06	BJN2S2R6+6+Z1	PAN HD 2 TAPPING SCREW 2.6X6
Y07	BJN2S++3+4+Z1	PAN HD 2 TAPPING SCREW 3X4
Y09	BJN2S++310+ZK	PAN HD 2 TAPPING SCREW 3X10
Y10	BJN2S++325+Z1	PAN HD 2 TAPPING SCREW 3X25
Y11	BJX6S++3+8+Z1	PAN WASHER HD 2 TAPPING SCREW 3X8
Y12	BJX6S++310+Z1	PAN WASHER HD 2 TAPPING SCREW 3X10
Y13	BJX6S++314+Z1	PAN WASHER HD 2 TAPPING SCREW 3X14
Y14	BJBYS++3+4+Z1	BIND HD SCREW 3X4
Y15	BJBYS++3+6+Z1	BIND HD SCREW 3X6
Y16	BJBYS++310+ZK	BIND HD SCREW 3X10
Y17	BJB2S++310+Z1	BIND HD 2 TAPPING SCREW 3X10
Y18	BJB2S++312+Z1	BIND HD 2 TAPPING SCREW 3X12
Y20	BJRBS2R620+Z1	HEX HD BOLT 2.6X20
Y21	WJBWS++3J10Z1	WASHER 3X10X1T
Y22	141-2-421T-51101	SPECIAL SCREW

ELECTRICAL PARTS

Ref. No.	Part No.	Description
40	4-285T-89200	P.C.BOARD, MECHANISM SWITCH
51	4-244T-04172	ROD ANT, FM
or	4-244T-08271	ROD ANT, FM
54	⚠ 4-243T-85673	POWER CORD
66	4-151T-57600	SPEAKER, WOOFER
67	4-151T-45900	SPEAKER, TWEETER
	4-243T-39400	LEAD CORD, SPEAKER
	4-267T-35000	SOCKET, 10P, TAPE B
	4-267T-38300	SOCKET, 7P, TAPE A
	4-267T-38400	SOCKET, MECHANISM SWITCH
54	⚠ 4-243T-85773	POWER CORD
	4-231T-71200	SWITCH, STOP

MAIN P.C.BOARD ASSY

Ref. No.	Part No.	Description
46	141-4-285T-88573	P.C.BOARD ASSY, MAIN
	4-240T-53800	SOCKET, PHONES
	4-237T-12600	TERMINAL BOARD, 4P, EXT.SPEAKER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PARTS LIST

Ref. No.	Part No.	Description
	4-258T-52740	O.S.C COIL
	4-267T-17173	SOCKET, 3P
	4-267T-17174	SOCKET, 4P
	4-267T-17176	SOCKET, 6P
	4-240T-47672	SOCKET, 2P, DIPMATE
	4-240T-83572	SOCKET, 2P
	4-267T-29700	SOCKET, 2P
	4-267T-17172	SOCKET
	4-236T-35977	PLUG, 7P
	4-236T-35980	PLUG, 10P
	4-236T-32276	PLUG, 6P
	4-237T-00100	TERMINAL BOARD
or	141-2-382T-16700	TERMINAL
	4-253T-13400	FILTER, B.P.F.
VC/VCT	4-224T-17700	TUNING CAPACITOR
CT1	4-224T-29871	TRIMMER, 11PF
CT2	4-224T-29871	TRIMMER, 11PF
CT3	4-224T-29871	TRIMMER, 11PF
CT4	4-224T-29871	TRIMMER, 11PF
T301	4-256T-36412	I.F.T, FM
T302	4-256T-36512	I.F.T, FM
T303	4-256T-36612	I.F.T, AM
L101	4-265R-11300	VHF COIL, FM
L102	4-265R-12500	VHF COIL, FM
L103	4-253T-15008	FILTER, 1UH
L104	4-257T-51310	ANT COIL, SW2
L105	4-257T-72701	ANT COIL ASSY, MW/SW
L106	4-258T-51112	O.S.C COIL, SW2
L107	4-258T-51212	O.S.C COIL, SW1
L108	4-258T-51312	O.S.C COIL, MW
L981	4-253T-18625	FILTER
CF301	4-256T-80400	I.F.FILTER, RED, FM
or	4-256T-80471	I.F.FILTER, BLUE, FM
or	4-256T-80472	I.F.FILTER, ORANGE, FM
or	4-256T-80473	I.F.FILTER, BLACK, FM
or	4-256T-80474	I.F.FILTER, WHITE, FM
CF302	4-256T-81100	I.F FILTER, AM
S1	4-238T-77700	SWITCH, BAND
S2	4-238T-37700	SWITCH, FM MODE
S711	4-248T-00772	SWITCH, RECORD/PLAY (S711~713,811~813,911~914)
S721	4-248T-16100	SWITCH, FUNCTION (S721,821,921~923)
S971	4-238T-95400	SWITCH, BEAT CANCEL
VR101	4-220T-38000	VARIABLE RESISTOR, FINE TUNING
VR701	4-220T-13573	VARIABLE RESISTOR, MAIN (VR701,801)
VR901	4-220T-13700	VARIABLE RESISTOR, BALANCE
SVR501	4-222T-97575	SEMI-FIXED RESISTOR, 10K OHM
SVR651	4-222T-85882	SEMI-FIXED RESISTOR, 300B
SVR652	4-222T-85872	SEMI-FIXED RESISTOR, 1KB
SVR653	4-222T-85882	SEMI-FIXED RESISTOR, 300B
SVR654	4-222T-85872	SEMI-FIXED RESISTOR, 1KB
TP	4-237T-00100	TERMINAL BOARD
or	141-2-382T-16700	TERMINAL
IC101	SITA7358P++++	IC TA7358P SIP9
IC301	SILA1260S++++	IC LA1260S DIP16
IC501	SIBA1332L++++	IC BA1332L DSI16
IC901	SIM51166P++++	IC M51166P DIP18
IC903	SIBA5406+++++	IC BA5406 SIP12
Q101	STC930+E++++B	TR 2SC930 E B
Q603	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q651	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q652	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q704	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q705	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q731	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K

Ref. No.	Part No.	Description
Q804	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q805	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q831	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q901	STC1815GR++++	TR 2SC1815 GR
Q902	STA608+F+++++	TR 2SA608 F
Q961	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q962	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q981	STA608+F+++++	TR 2SA608 F
Q982	STD734+E+++++	TR 2SD734 E
D101	SDGMA01+++++T	DIODE GMA01
D102	SC1S553T++++T	VARACTOR DIODE 1S553T
D103	SC1S553T++++T	VARACTOR DIODE 1S553T
D301	SDGMA01+++++T	DIODE GMA01
D651	SDGMA01+++++T	DIODE GMA01
D652	SDGMA01+++++T	DIODE GMA01
D987	SDGMA01+++++T	DIODE GMA01
D988	SDGMA01+++++T	DIODE GMA01
D989	SDMTZ075C++++	ZENER DIODE MTZ7.5C
C101	CB+16103NA+YG	BC CON 0.01MF 16V N A + Y G
C102	CC+50220JASLG	CERAMIC 22PF 50V J A SL
C103	CC+504R7KASLG	CERAMIC 4.7PF 50V K A SL
C104	CC+50220JRRHF	CERAMIC 22PF 50V J R RH
C105	CC+50150JACHG	CERAMIC 15PF 50V J A CH
C106	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C107	CC+504R7KACHG	CERAMIC 4.7PF 50V K A CH
C108	CB+16103NA+YG	BC CON 0.01MF 16V N A + Y G
C109	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C110	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C136	CB+16332MAXRG	BC CON 0.0033MF 16V M A XR
C137	CC+503R3KAUJG	CERAMIC 3.3PF 50V K A UJ
C138	CC+50152KDYBS	CERAMIC 0.0015MF 50V K DYB
C139	CC+502R7KAUJG	CERAMIC 2.7PF 50V K A UJ
C140	CN100341JR++F	P P CON 340PF 100V J R
C141	CC+50120JAUJG	CERAMIC 12PF 50V J A UJ
C142	CC+50100JASLG	CERAMIC 10PF 50V J A SL
C143	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C145	CC+508R2KASL+	CERAMIC 8.2PF 50V K A SL
C146	CC+50470JASL+	CERAMIC 47PF 50V J A SL
C147	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C148	CC+50100JASLG	CERAMIC 10PF 50V J A SL
C301	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C302	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C303	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C304	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C305	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C306	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C307	CC+50271KAYBG	CERAMIC 270PF 50V K A YB
C308	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C309	CE+10227MRHAF	ELECT 220MF 10V M R HA F
C311	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C501	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C503	CB++6223NA+YG	BC CON 0.022MF 6V N A Y G
C504	CN100102JR++F	P P CON 1000PF 100V J R
C505	CE+50474MRHAF	ELECT 0.47MF 50V M R HA F
C506	CE+50225MVHAS	ELECT 2.2MF 50V M V HA S
C508	CB+25273MRXRF	BC CON 0.027MF 25V M R XR
C509	CB+25273MRXRF	BC CON 0.027MF 25V M R XR
C510	CE+50225MRHAF	ELECT 2.2MF 50V M R HA F
C511	CE+50225MVHAS	ELECT 2.2MF 50V M V HA S
C513	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C514	CB+25223ZAF+G	BC CON 0.022MF 25V Z A F G
C601	CC+50272KRYBF	CERAMIC 0.0027MF 50V K RYB
C602	CC+50122KRYBF	CERAMIC 0.0012MF 50V K RYB
C603	CM+50183JR++F	MYLAR 0.018MF 50V J R
C606	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C619	CB+16103MA+YG	BC CON 0.01MF 16V M A Y
C622	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C623	CB+25473MRXRF	BC CON 0.047MF 25V M R XR
C651	CE+16226MRHAF	ELECT 22MF 16V M R HA F

PARTS LIST

Ref. No.	Part No.	Description
C652	CE+16226MRHAF	ELECT 22MF 16V M R HA F
C702	CC+50561KAYBG	CERAMIC 560PF 50V K A YB
C703	CE+10476MVHAS	ELECT 47MF 10V M V HA S
C704	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C705	CB+25333MDXRS	BC CON 0.033MF 25V M D XR
C706	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C708	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C709	CC+50331KAYBG	CERAMIC 330PF 50V K A YB
C710	CC+50561KAYBG	CERAMIC 560PF 50V K A YB
C711	CE+10476MVHAS	ELECT 47MF 10V M V HA S
C712	CB+25333MDXRS	BC CON 0.033MF 25V M D XR
C714	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C731	CE+25475MVHAS	ELECT 4.7MF 25V M V HA S
C732	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C750	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C761	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C762	CE+10336MRHAF	ELECT 33MF 10V M R HA F
C763	CE+16476MRHAF	ELECT 47MF 16V M R HA F
C764	CM+50154MM++S	MYLAR 0.15MF 50V M M
C765	CE+10477MVHAS	ELECT 470MF 10V M V HA S
C766	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C767	CB+25683MDXRS	BC CON 0.068MF 25V M D XR
C802	CC+50561KAYBG	CERAMIC 560PF 50V K A YB
C803	CE+10476MVHAS	ELECT 47MF 10V M V HA S
C804	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C805	CB+25333MDXRS	BC CON 0.033MF 25V M D XR
C806	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C808	CB+25333MRXRF	BC CON 0.033MF 25V M R XR
C809	CC+50331KAYBG	CERAMIC 330PF 50V K A YB
C810	CC+50561KAYBG	CERAMIC 560PF 50V K A YB
C811	CE+10476MVHAS	ELECT 47MF 10V M V HA S
C812	CB+25333MDXRS	BC CON 0.033MF 25V M D XR
C814	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C831	CE+25475MVHAS	ELECT 4.7MF 25V M V HA S
C832	CE+50105MVHAS	ELECT 1MF 50V M V HA S
C850	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C861	CE+50105MRHAF	ELECT 1MF 50V M R HA F
C862	CE+10336MRHAF	ELECT 33MF 10V M R HA F
C863	CE+16476MRHAF	ELECT 47MF 16V M R HA F
C864	CM+50154MM++S	MYLAR 0.15MF 50V M M
C865	CE+10477MVHAS	ELECT 470MF 10V M V HA S
C866	CC+50102KAYBG	CERAMIC 0.001MF 50V K A YB
C867	CB+25683MDXRS	BC CON 0.068MF 25V M D XR
C901	CB+25223MRXRF	BC CON 0.022MF 25V M R XR
C902	CB+25273MRXRF	BC CON 0.027MF 25V M R XR
C903	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C904	CE+10477MVHAS	ELECT 470MF 10V M V HA S
C905	CE+10226MRHAF	ELECT 22MF 10V M R HA F
C907	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C933	CE+10476MRHAF	ELECT 47MF 10V M R HA F
C961	CE+16107MRHAF	ELECT 100MF 16V M R HA F
C962	CE+10107MRHAF	ELECT 100MF 10V M R HA F
C963	CE+16107MVHAS	ELECT 100MF 16V M V HA S
C981	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C982	CE+10477MVHAS	ELECT 470MF 10V M V HA S
C984	CE+16228MVHAS	ELECT 2200MF 16V M V HA S
C990	CE+16106MRHAF	ELECT 10MF 16V M R HA F
C992	CC+50223ZDYFS	CERAMIC 0.022MF 50V Z D YF
R101	401 016 1558	CARBON 22 JA 1/4W
R102	401 024 7747	CARBON 100K JA 1/6W
R103	401 026 4942	CARBON 330K JA 1/6W
R105	401 026 1644	CARBON 270K JA 1/6W
R106	401 018 3877	CARBON 3.3K JA 1/4W
R107	401 024 7044	CARBON 1K JA 1/6W
R108	401 012 3467	CARBON 10 JA 1/4W
R132	401 024 7044	CARBON 1K JA 1/6W
R133	401 026 1644	CARBON 270K JA 1/6W
R151	401 027 3201	CARBON 560K JA 1/6W
R301	401 024 6740	CARBON 100 JA 1/6W
R304	401 027 8642	CARBON 8.2K JA 1/6W
R305	401 016 9752	CARBON 27 JA 1/4W
R501	401 027 5542	CARBON 6.8K JA 1/6W
R502	401 027 5245	CARBON 680 JA 1/6W

Ref. No.	Part No.	Description
R503	401 019 1961	CARBON 3.9K JA 1/4W
R504	401 024 7044	CARBON 1K JA 1/6W
R505	401 026 4348	CARBON 3.3K JA 1/6W
R506	401 026 4348	CARBON 3.3K JA 1/6W
R507	401 027 5542	CARBON 6.8K JA 1/6W
R508	401 027 5542	CARBON 6.8K JA 1/6W
R601	401 026 8148	CARBON 4.7 JA 1/6W
R604	401 026 4348	CARBON 3.3K JA 1/6W
R609	401 026 3747	CARBON 33 JA 1/6W
R651	401 017 2227	CARBON 2.7K KA 1/4W
R652	401 023 1122	CARBON 82 KA 1/4W
R653	401 025 7845	CARBON 2.2K JA 1/6W
R654	401 025 7845	CARBON 2.2K JA 1/6W
R655	401 017 2227	CARBON 2.7K KA 1/4W
R656	401 023 1122	CARBON 82 KA 1/4W
R703	401 026 6441	CARBON 39 JA 1/6W
R704	401 026 9947	CARBON 4.7K JA 1/6W
R707	401 027 5542	CARBON 6.8K JA 1/6W
R712	401 026 7042	CARBON 3.9K JA 1/6W
R713	401 025 0044	CARBON 120K JA 1/6W
R714	401 025 1942	CARBON 15K JA 1/6W
R715	401 026 6441	CARBON 39 JA 1/6W
R716	401 026 9947	CARBON 4.7K JA 1/6W
R717	401 026 1347	CARBON 27K JA 1/6W
R719	401 026 4645	CARBON 33K JA 1/6W
R721	401 026 4348	CARBON 3.3K JA 1/6W
R722	401 019 2324	CARBON 3.9K KA 1/4W
R723	401 025 1942	CARBON 15K JA 1/6W
R724	401 027 2640	CARBON 5.6K JA 1/6W
R731	401 026 4348	CARBON 3.3K JA 1/6W
R732	401 026 4942	CARBON 330K JA 1/6W
R733	401 025 7845	CARBON 2.2K JA 1/6W
R734	401 027 2145	CARBON 56 JA 1/6W
R753	401 024 7044	CARBON 1K JA 1/6W
R762	401 025 7449	CARBON 220 JA 1/6W
R763	401 015 7016	CARBON 2.2 KA 1/4W
R764	401 024 6740	CARBON 100 JA 1/6W
R770	401 027 5542	CARBON 6.8K JA 1/6W
R771	401 024 5644	CARBON 1 JA 1/6W
R803	401 026 6441	CARBON 39 JA 1/6W
R804	401 026 9947	CARBON 4.7K JA 1/6W
R807	401 027 5542	CARBON 6.8K JA 1/6W
R812	401 026 7042	CARBON 3.9K JA 1/6W
R813	401 025 0044	CARBON 120K JA 1/6W
R814	401 025 1942	CARBON 15K JA 1/6W
R815	401 026 6441	CARBON 39 JA 1/6W
R816	401 026 9947	CARBON 4.7K JA 1/6W
R817	401 026 1347	CARBON 27K JA 1/6W
R819	401 026 4645	CARBON 33K JA 1/6W
R821	401 026 4348	CARBON 3.3K JA 1/6W
R822	401 019 2324	CARBON 3.9K KA 1/4W
R823	401 025 1942	CARBON 15K JA 1/6W
R824	401 027 2640	CARBON 5.6K JA 1/6W
R831	401 026 4348	CARBON 3.3K JA 1/6W
R832	401 026 4942	CARBON 330K JA 1/6W
R833	401 025 7845	CARBON 2.2K JA 1/6W
R834	401 027 2145	CARBON 56 JA 1/6W
R853	401 024 7044	CARBON 1K JA 1/6W
R862	401 025 7449	CARBON 220 JA 1/6W
R863	401 015 7016	CARBON 2.2 KA 1/4W
R864	401 024 6740	CARBON 100 JA 1/6W
R870	401 027 5542	CARBON 6.8K JA 1/6W
R871	401 024 5644	CARBON 1 JA 1/6W
R901	401 027 2640	CARBON 5.6K JA 1/6W
R902	401 025 4240	CARBON 1.8K JA 1/6W
R903	401 016 4232	CARBON 2.2K KA 1/4W
R904	401 025 1645	CARBON 1.5K JA 1/6W
R905	401 022 1212	CARBON 68 KA 1/4W
R907	401 024 8041	CARBON 1M JA 1/6W
R908	401 024 9741	CARBON 12K JA 1/6W
R933	401 026 9640	CARBON 470 JA 1/6W
R961	401 015 2021	CARBON 180 KA 1/4W
R963	401 025 7845	CARBON 2.2K JA 1/6W
R981	401 025 7845	CARBON 2.2K JA 1/6W

Ref. No.	Part No.	Description
R982	401 024 7450	CARBON 10K JA 1/6W
R983	401 024 7747	CARBON 100K JA 1/6W
R984	401 016 4232	CARBON 2.2K KA 1/4W
R985	401 027 5245	CARBON 680 JA 1/6W
R990	401 024 7450	CARBON 10K JA 1/6W

GRAPHIC EQUALIZER P.C.BOARD ASSY

Ref. No.	Part No.	Description
47	141-4-285T-88600	P.C.BOARD ASSY, GRAPHIC EQUALIZER
	4-267T-17176	SOCKET, 6P
VR702	4-220T-36400	VARIABLE RESISTOR, GRAPHIC EQUALIZER
VR702-1		(VR702~706,802~806)
Q732	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
Q832	STC536+G+++U+	TR 2SC536 G AUD
or	STC945+K+++++	TR 2SC945 K
C733	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C734	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C735	CB+16103MA+YG	BC CON 0.01MF 16V M A Y
C736	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C737	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C738	CB+16123MA+YG	BC CON 0.012MF 16V M A Y
C739	CB+16222MAXRG	BC CON 0.0022MF 16V M A XR
C740	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C741	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C742	CE+16106MVHAS	ELECT 10MF 16V M V HA S
C743	CE+50474MVHAS	ELECT 0.47MF 50V M V HA S
C833	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C834	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C835	CB+16103MA+YG	BC CON 0.01MF 16V M A Y
C836	CB+25223MDXRS	BC CON 0.022MF 25V M D XR
C837	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C838	CB+16123MA+YG	BC CON 0.012MF 16V M A Y
C839	CB+16222MAXRG	BC CON 0.0022MF 16V M A XR
C840	CB+16682MAXRG	BC CON 0.0068MF 16V M A XR
C841	CC+50101KAYBG	CERAMIC 100PF 50V K A YB
C842	CE+16106MVHAS	ELECT 10MF 16V M V HA S
C843	CE+50474MVHAS	ELECT 0.47MF 50V M V HA S
C932	CE+10476MVHAS	ELECT 47MF 10V M V HA S
R735	401 026 7042	CARBON 3.9K JA 1/6W
R736	401 027 2343	CARBON 560 JA 1/6W
R737	401 024 9741	CARBON 12K JA 1/6W
R738	401 024 9741	CARBON 12K JA 1/6W
R739	401 025 4646	CARBON 18K JA 1/6W
R740	401 027 8642	CARBON 8.2K JA 1/6W
R741	401 027 8642	CARBON 8.2K JA 1/6W
R742	401 027 2640	CARBON 5.6K JA 1/6W
R743	401 026 9947	CARBON 4.7K JA 1/6W
R744	401 025 7845	CARBON 2.2K JA 1/6W
R745	401 026 9947	CARBON 4.7K JA 1/6W
R746	401 026 7042	CARBON 3.9K JA 1/6W
R747	401 025 1645	CARBON 1.5K JA 1/6W
R748	401 026 7042	CARBON 3.9K JA 1/6W
R749	401 026 9947	CARBON 4.7K JA 1/6W
R750	401 026 9947	CARBON 4.7K JA 1/6W
R751	401 024 8041	CARBON 1M JA 1/6W
R752	401 026 7042	CARBON 3.9K JA 1/6W
R835	401 026 7042	CARBON 3.9K JA 1/6W
R836	401 027 2343	CARBON 560 JA 1/6W
R837	401 024 9741	CARBON 12K JA 1/6W
R838	401 024 9741	CARBON 12K JA 1/6W
R839	401 025 4646	CARBON 18K JA 1/6W
R840	401 027 8642	CARBON 8.2K JA 1/6W
R841	401 027 8642	CARBON 8.2K JA 1/6W
R842	401 027 2640	CARBON 5.6K JA 1/6W
R843	401 026 9947	CARBON 4.7K JA 1/6W
R844	401 025 7845	CARBON 2.2K JA 1/6W
R845	401 026 9947	CARBON 4.7K JA 1/6W
R846	401 026 7042	CARBON 3.9K JA 1/6W
R847	401 025 1645	CARBON 1.5K JA 1/6W
R848	401 026 7042	CARBON 3.9K JA 1/6W
R849	401 026 9947	CARBON 4.7K JA 1/6W
R850	401 026 9947	CARBON 4.7K JA 1/6W
R851	401 024 8041	CARBON 1M JA 1/6W
R852	401 026 7042	CARBON 3.9K JA 1/6W
R932	401 026 9640	CARBON 470 JA 1/6W

LED P.C.BOARD ASSY

Ref. No.	Part No.	Description
48	141-4-285T-88771	P.C.BOARD ASSY, LED
	4-267T-17172	SOCKET, 2P
LED	4-267T-17173	SOCKET, 3P
D904	SLSLZ173BAKRE	LED SLZ173B A K RE
or	SLSLZ173BBKRE	LED SLZ173B B K RE
or	SLSLZ173BCKRE	LED SLZ173B C K RE
D921	SLSLZ173BAKRE	LED SLZ173B A K RE
or	SLSLZ173BBKRE	LED SLZ173B B K RE
or	SLSLZ173BCKRE	LED SLZ173B C K RE
R971	401 025 7449	CARBON 220 JA 1/6W
R972	401 021 2329	CARBON 560 KA 1/4W

POWER SUPPLY P.C.BOARD ASSY

Ref. No.	Part No.	Description
60	141-4-285T-88871	P.C.BOARD ASSY, POWER SUPPLY
	4-240T-83572	SOCKET, 2P
	4-236T-32272	PLUG, 2P
	141-2-382T-16700	TERMINAL
	4-237T-00100	TERMINAL BOARD
	⚠ 4-320T-10800	POWER TRANSFORMER
S941	4-238T-51100	SWITCH, VOLTAGE SELECTOR SWITCH
S981	4-238T-37300	SWITCH, AC/DC SELECT
D990	⚠ SDDSF10+C+++T	DIODE DSF10 C T
or	⚠ SDDS135+D++++	DIODE DS135 D
D991	⚠ SDDSF10+C+++T	DIODE DSF10 C T
or	⚠ SDDS135+D++++	DIODE DS135 D
D992	⚠ SDDSF10+C+++T	DIODE DSF10 C T
or	⚠ SDDS135+D++++	DIODE DS135 D
D993	⚠ SDDSF10+C+++T	DIODE DSF10 C T
or	⚠ SDDS135+D++++	DIODE DS135 D
C986	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C987	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C988	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF
C989	CC+50223ZRYFF	CERAMIC 0.022 50V Z R YF

MIC P.C.BOARD ASSY

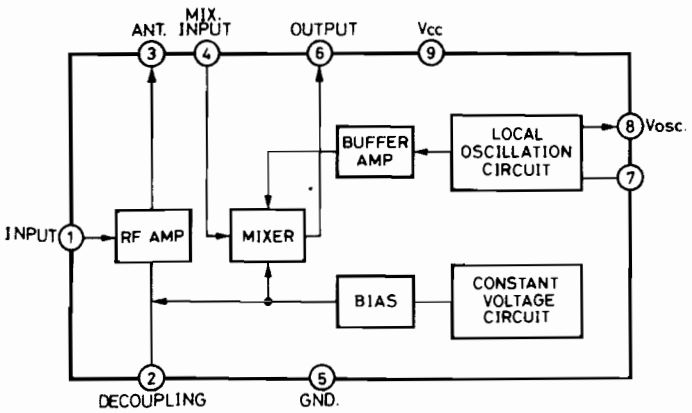
Ref. No.	Part No.	Description
8	141-4-285T-88900	P.C.BOARD ASSY, MIC
	4-153T-12800	MIC
D901	SDMTZ100A++++	ZENER DIODE MTZ10.0A

BATTERY TERMINAL P.C.BOARD ASSY

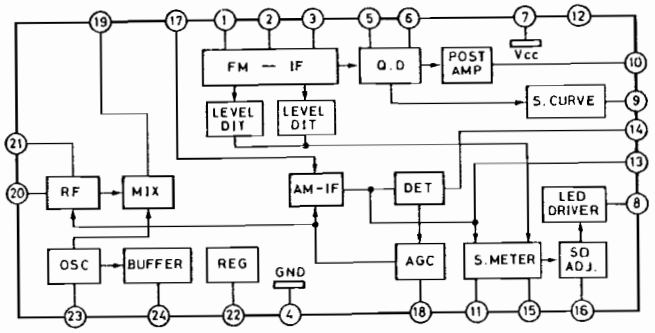
Ref. No.	Part No.	Description
61	141-4-285T-89000	P.C.BOARD ASSY, BATTERY TERMINAL
	4-240T-83572	SOCKET, 2P
	141-2-336T-33700	TERMINAL BATTERY

IC BLOCK DIAGRAM

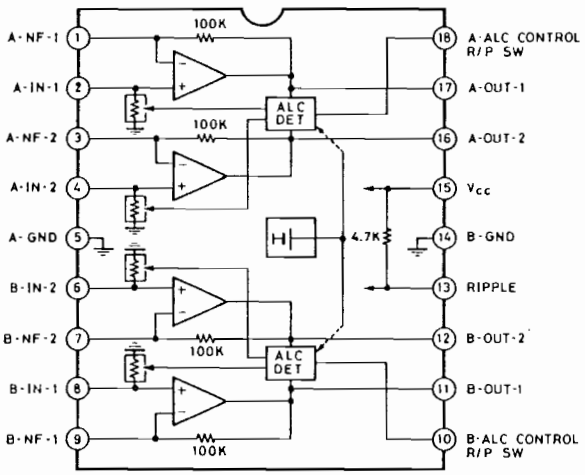
IC101 TA7358



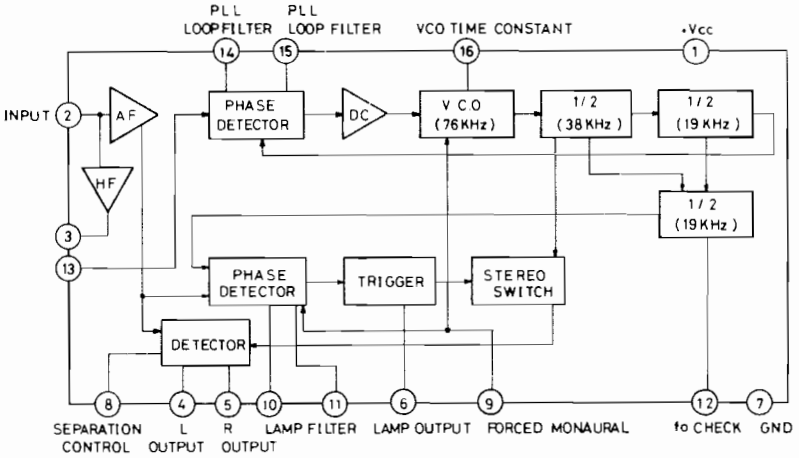
IC301 LA1260



IC901 M51166PL

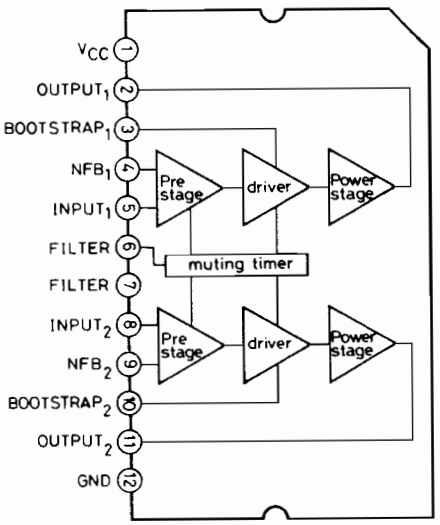


IC501 BA1332L

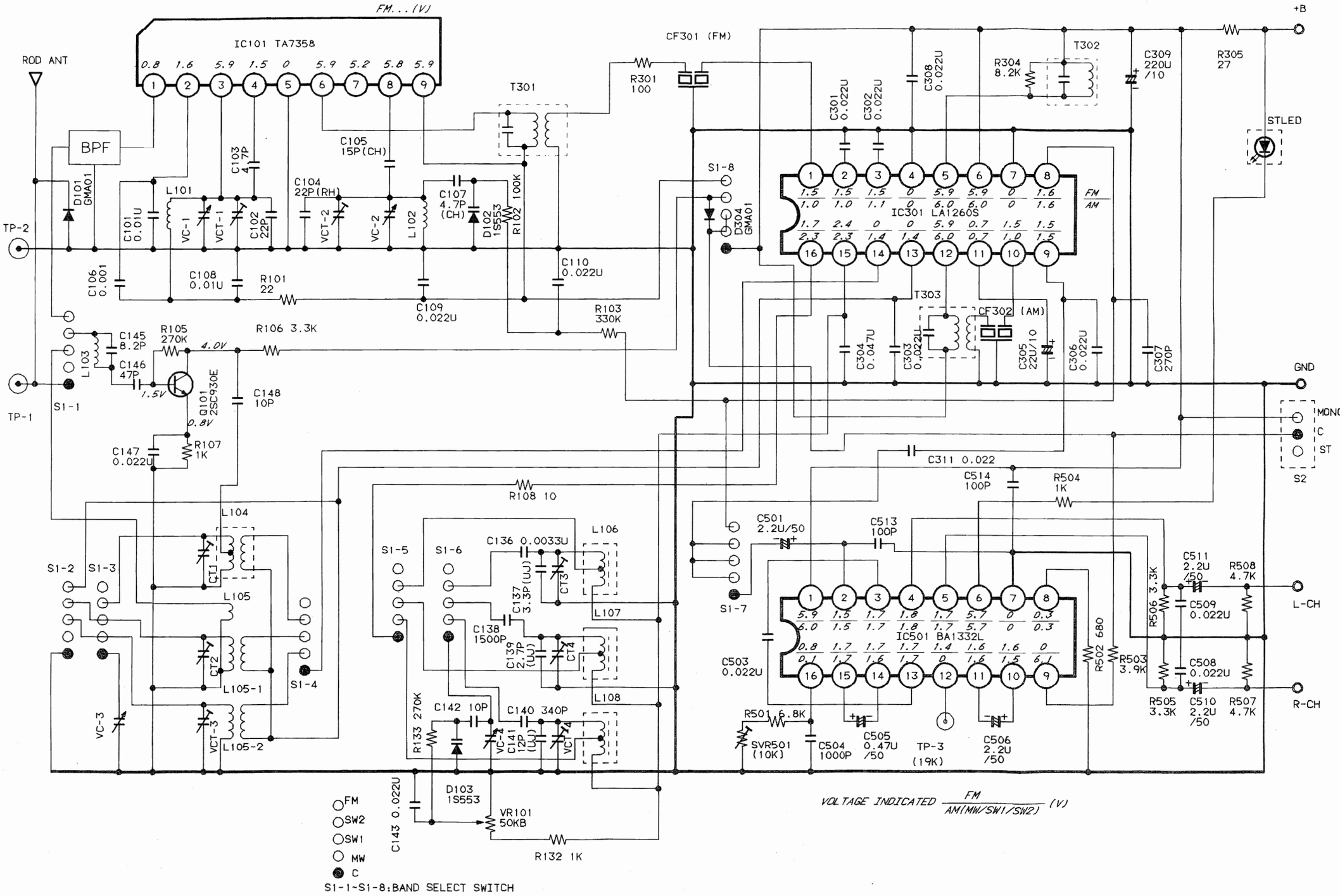


IC903 BA5406

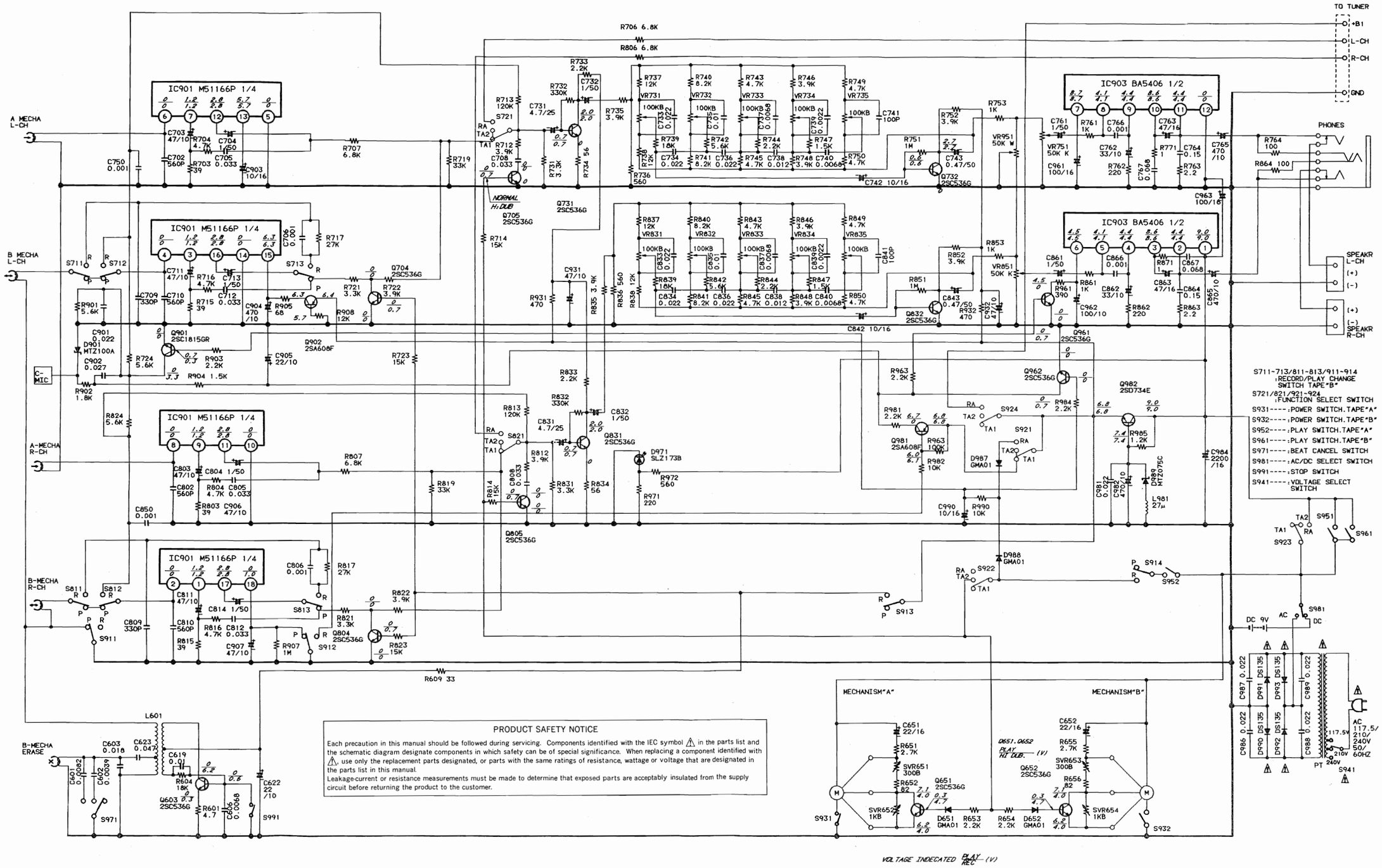
POWER AMP



SCHEMATIC DIAGRAM (TUNER)

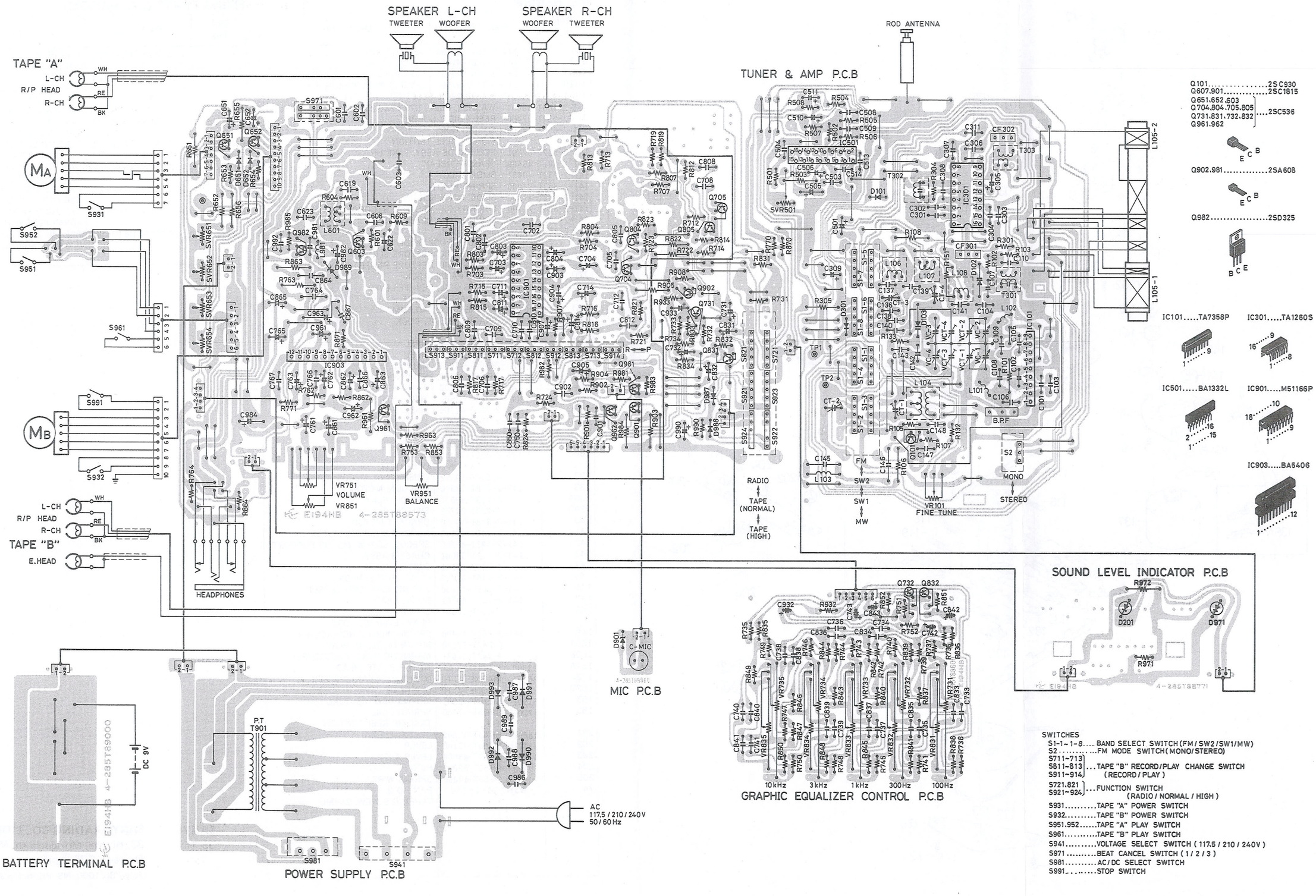


SCHEMATIC DIAGRAM (ANP)



PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.
Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.



SWITCHES

- S1-1~1-8 ..... BAND SELECT SWITCH (FM / SW2 / SW1 / MW)
- S2 ..... FM MODE SWITCH (MONO / STEREO)
- S711~713, S811~813 ... TAPE "B" RECORD / PLAY CHANGE SWITCH
- S911~914 (RECORD / PLAY)
- S721.821, S921~924 ... FUNCTION SWITCH (RADIO / NORMAL / HIGH)
- S931 ..... TAPE "A" POWER SWITCH
- S932 ..... TAPE "B" POWER SWITCH
- S951.952 ..... TAPE "A" PLAY SWITCH
- S961 ..... TAPE "B" PLAY SWITCH
- S941 ..... VOLTAGE SELECT SWITCH (117.5 / 210 / 240V)
- S971 ..... BEAT CANCEL SWITCH (1 / 2 / 3)
- S981 ..... AC / DC SELECT SWITCH
- S991 ..... STOP SWITCH